**Graham Paasch**

**Sr. Network Tool & Automation Engineer**

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**Professional summary:**

Very Passionate Sr. Network & Automation Engineer having worked in **projects that include Data Center refresh, Campus Redevelopment, Firewall and F5 Installations,** with **8** years of experience in routing, switching, Network Security-Next-Gen Firewalls, Load Balancers, Wireless and VOIP systems design, administration, and troubleshooting. Excellent communication skills with the ability to interface at all levels. A proactive team player who also can work independently.

**Career Highlights:**

* 9+ years of experience in Designing, Implementing and Troubleshooting Service Provider Networks and Enterprise Networks. High level understanding of LAN, WAN, ISP circuits, Network Security, Application Delivery Controllers, SSL VPN and Wireless LAN.
* Worked on projects that include deployment of new devices, life cycle projects, migration from legacy to new solutions, Engineering, Operations, Software upgrade procedures in various client environments.
* Thorough Understanding of Switching and Routing protocols in Campus and Data Centers environments with multi-vendor equipment.
* Expertise in installing, configuring, and maintaining Cisco Catalyst 2960, 3560X ,3750X, 3850, Cat 9K, 4500-X, 6509, Nexus 2k, 5K, 7K and 9K. Juniper Switches that include EX and QFX series. Aruba Campus Switches.
* Good understanding of Network Protocols that include STP, RSTP, MST, PVST+, ARP, VLAN, VTP, 802.1Q, EtherChannel, HSRP, VRRP, GLBP, DNS, DHCP.
* Expertise in installing, configuring, and troubleshooting of Cisco Routers (ASR1K, 7200vxr, 3900, 3800, 3600, 2900, 2800, 1800, 800 series), Juniper MX series routers, Arista 7000 Series Routers.
* Design, troubleshooting and configuration experience with OSPF, IS-IS, EIGRP and BGP protocols on multi-vendor routers. Worked on Traffic path manipulation using various attributes, redistribution of routes, ISP peering, WAN connections, MPLS and DMVPN.
* Worked extensively on Access, Distribution and Core layers in Data center, IDF and MDF environments. Experience with Spine and Leaf Architecture using Cisco ACI and Arista Cloud Vision.
* Thorough understanding of redundant features in different layers which include VPC, VSS, MEC, M-LAG, Port-Channels (LACP, PAGP), VDC.
* Deployed checkpoint Maestro Hyperscale Orchestrator, defined security groups aligned firewalls and policies.
* Responsible for Palo Alto, Checkpoint and Cisco ASA firewall administration across global networks.
* Experience with legacy and Next Gen Firewalls that include Cisco ASA (5500 Series), Palo Alto (5000 Series), Check Point and FortiGate Firewalls. Worked on Installation of firewalls from scratch, migration and configuration of policies end to end.
* Exposure to Centralized management (Panorama, Forti-Manger, Smart Console) of firewalls in the environment, Log monitoring, generating reports, config backups, Perimeter firewalls, Server Farm firewalls.
* Worked on Security Policies, NAT Policies, URL Filtering, SSL forward Proxy, APP ID, Threat ID, User ID, Wildfire, Signatures, Zones, Virtual Systems, IDS and IPS features in perimeter and Cloud firewalls.
* Experience with IronPort, Bluecoat and Zscaler cloud Proxies for Internet Web Security. Worked on migration project from BluePort’s to Zscaler Internet Security. Experience with ZAPP, Blacklist and Whitelist policies based on location, AD groups. Integration with Azure AD for SAML Authentication.
* Worked on Zscaler Private Access- ZPA for app based per user VPN. Experience with APP connectors, access policies, APP segments, LSS connectors in ZPA.
* Experienced Checkpoint Firewall, Security and Network Administrator.
* Worked on Application Delivery Controllers that include F5 LTM, GTM and ASM, Citrix NetScaler, Cisco ACE, GSS load balancers. Worked on Configuring virtual servers, one arm and two arm LB Architecture, iRules, Monitors, DNS based topology load balancing, Persistence Profiles, SNAT etc.
* Worked on AWS and Azure cloud configurations with respect to network connectivity and Security. Worked on configuring VNETs, Security Groups, Direct Connect, Express Routes, troubleshooting EC2 instances, Installation of Infoblox, Palo alto firewalls in different AZs.
* Experience working on Spine Leaf Architecture with VXLAN overlay, BGP or OSPF underlay. Implementation of VTEPS, VNI, Bridge Domains, Tenants, EPG, EVPN, Symmetric IRB. Configuration experience in Cisco ACI and Arista Cloud Vision.
* Experience migrating from DMVPN to SD-WAN solution using Versa and Viptella solution. Worked on Versa Director and Cisco Viptella.
* Experience with Aruba and Cisco Wireless LAN controller. Worked. Worked on integration of WLAN with RADIUS servers like ISE and ClearPass. Worked on configuring AP profiles, SSID, Authentication roles, RF parameters on WLAN controllers. Experience with Master, local controllers, Anchor controllers, Instant AP, Remote access points.
* Worked on monitoring tools that include SolarWinds, Netcool, Whatsupgold. Experience with SNMP V2C and V3. Worked on Log Collectors that include Splunk and ArcSight.
* understanding and implementation experience with Python and Ansible for network automation tasks that include automatic backups, config templates, tasks automation like software upgrades etc.

**Technical Summary:**

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| **Network Configuration**: | Advanced switch/router configuration (Cisco IOS access list, Route redistribution/propagation). |
| **Routing Protocols**: | RIP, IGRP, EIGRP, OSPFv2, OSPFv3, IS-IS, BGP v4, MP-BGP |
| **WAN Protocols**: | HDLC, PPP |
| **Circuit switched WAN**: | T1/E1 – T3/E3/OCX (Channelized, Fractional & full). |
| **Security Technologies:** | Cisco FWSM/PIX/ASDM, Palo Alto, Cisco ASA, Checkpoint, Blue Coat proxy server. Port Security, DHCP Snooping, IP Source Guard (IPSG). |
| **Cisco Routers:** | Cisco ISR-1000, ISR-4000, ASR-1000, ASR-9000, ASR-5500, Meraki vMX 100. |
| **Redundancy and management**: | HSRP, VRRP, GLBP, RPR, NSF/NSR, STP, Wireshark, SolarWinds, SNMP |
| **Physical interfaces**: | Fast Ethernet, Gigabit Ethernet, Serial, HSSI, Sonet (POS) |
| **Layer 2 technology**: | VLAN, VXLAN, HSRP, VRRP, GLBP, STP, RSTP, PVST+, MST, PVLAN, Optimizing STP (Port Fast, Uplink Fast, Backbone Fast, Root Guard, BPDU Guard), |
| **Layer 3 Switching**: | CEF, MLS, Ether channel (PAGP & LACP, Load Balancing) |
| **Switches**: | Catalyst 9400, 3850, 3650, 2960; Nexus 2k, 3k, 5k, 7k, 9k |
| **Load Balancers** | F5 LTM, GTM, Citrix NetScaler, iRules |
| **Operating Systems**: | Microsoft XP/Vista/7, Windows Servers 2003/2008, Windows MS-Office**,** Microsoft project server 2013 |

**Professional Experience:**

**SR.Network Tool & Automation Engineer--** Oct 2022 - Apr 2023 (6m)

**Role -** Worked as a part of network team where my daily tasks included configuring, monitoring and troubleshooting of TCP/ IP networks. Configuring & managing around 500+ Network &Security Devices that includes Cisco Routers & Switches, Nexus Switches, Juniper and Palo Alto Firewalls, F5 BigIP Load balancers, Blue Coat Proxies and Riverbed WAN/MAN Optimizers. Trained in Spine Leaf Architecture.

**Responsibilities:**

* Ef ciently managed and organized data for AWS version control repositories using Python scripting.
* Applied deep knowledge of IP networking fundamentals to ensure smooth network operations.
* Successfully diagnosed and resolved complex network issues with promptness and accuracy.
* Demonstrated expertise in protocols and technologies such as BGP, OSPF, TCP, VPNs, net ow, and DNS.

**Environment:** Cisco Routers (4800, 3800, 3600, 2800, 2600, 2900, 1800, 1700, 800), switches (6500/3750/3550 3500/2950), Checkpoint, F5 Load balancing (LTM, GTM, APM, AFM, ASM)**,** EIGRP, RIP, OSPF, Voice Gateways, BGP, VPN, MPLS, Ether Channels, Citrix, Cisco Catalyst Switches, Firewalls (Cisco ASA, Palo Alto), Cisco Voice (CCM, UCCE), Shell Scripting.

**Network Admin/Automation, ARM** Jun 2022 - Oct 2022 (4m)

Con uence Slack Visual Studio Cisco

**Role -** To Work in Enterprise and Data center environment on switching, routing, firewalls (Site to Site VPN tunnels) and VOIP. Worked on Different VOIP systems on network. Worked on Cisco Wireless. Worked on Load balancers in Data center for internal and external applications.

**Responsibilities:**

* Provided robust global network support, effectively managing operational support and project work.
* Monitored and resolved network alerts and incidents promptly, minimizing downtime and ensuring ef cient resolution.
* Collaborated as part of a global team in a follow-the-sun environment to deliver seamless network operations.
* Con gured and maintained network equipment, including Cisco ACI infrastructure, utilizing Python and Ansible for automation.

**Environment:** Routers (Nexus 1K**,** 5K**,**7K, Juniper MX-960), switches (6500/3750/3550 3500/2950), F5 Load balancing (LTM, GTM, APM, AFM, ASM)**,** EIGRP, RIP, OSPF, BGP, VPN, Unified Contact Center Enterprise (UCCE), MPLS, Cisco Catalyst Switches, Firewalls (Cisco ASA, Palo Alto), Cisco Voice (CCM, UCCE, UCCX), Citrix.

**Senior Network Engineer, Hewlett Packard Enterprise** Jun 2020 - Jun 2022 (2y)

JavaScript Python Bash Excel Con uence Slack Visual Studio Git

**Role –**Installation of PA firewalls. Worked on Tier 3 Issues. Managed IP subnets, Monitoring. Worked on service now tickets on Network issues in data center and Enterprise. Upgradation of IOS for various equipment on a timely basis.

**Responsibilities:**

* Developed a Python con guration generator that signi cantly reduced network implementation time, enabling faster deployment and contributing to the development of a publicly developed DevOps tool.
* Supported network capacity planning, throughput, performance, and scale diagnostics as a technical leader for the Shasta Supercomputer, a high-performance computing system.
* Provided expertise in designing and architecting scalable network topologies, ensuring ef cient and robust solutions.
* Advocated for ef cient and scalable network designs, leveraging research and self-learning to drive continuous improvement.

**Environment**: Cisco ASA5580/5540/5520, Checkpoint R70, R75, R77.20 Gaia, Palo Alto PA-5000/3000, IEEE 802.11Big IP F5 LTM/GTM, Nexus switches, TCP/IP, VPN, Cisco WSA, Bluecoat Proxy servers, IDS/IPS. SIEM and Monitoring.

**Network Developer, Spectrum Enterprise (Charter Business)** Aug 2019 - Jun 2020 (10m)

Docker JavaScript Python Con uence Visual Studio Git Cisco REST API

**Role –** Worked in a NOC team on Layer1/2/3 issues in the network. Worked on various cisco switches and routers. Worked on Firewall rules, VPN tunnels. Includes Cabling and racking.

**Responsibilities:**

* Python developer for the Ciena MDSO product to auto provision Juniper and Cisco routers and switches.
* Responsible for supporting the development and implementation of network automation for scale and predictability leveraging common languages and con guration as code, while providing leadership to teams and customers.
* Responsible for ensuring ef cient and reliable network orchestration, virtualization, and automation platforms, leading integration efforts to improve production and providing daily leadership to support engineering teams and customers.
* Developed CI/CD build pipeline and automation for developed applications, managed completed complex technical projects while delivering network engineering and software development within cost ef cient and Agile frameworks.

**Network Engineer, Spectrum Enterprise (Charter Business)** Jul 2017 - Jun 2019 (1y 11m)

**Role - Worked** in an Operations team to support and troubleshoot issues related to switching, routing and Firewalls. Co-ordinate with testing team and deployment team for any issues.

**Responsibilities:**

Python Bash Linux Salesforce JIRA Con uence Cisco REST API

* Charter Champions award given by direct manager Ahmed Belazi.
* Mass updated Access Control List con guration on approximately 25,000 CPE using Python paramkio and requests.
* Added protections to Cisco ACS that prevent all outages caused by user error with the command "switchport trunk allowed vlan".
* Developed and implemented a Python program that quickly and securely enables TACACS on CPE and updates Cisco ACS with a Python requests API call.
* Reporting to the Network Engineering Manager, responsible for planning, designing and deploying network infrastructure, leading con guration, and troubleshooting of complex network technologies.
* Delivered training, mentorship, and guidance to 20 team members to enhance expertise and best practices.

**Network Specialist, Spectrum Enterprise (Charter Business)** May 2015 - Jul 2017 (2y 2m)

CSS HTML JavaScript Python Linux Windows Con uence Cisco

* Delivered advanced troubleshooting, customer support, guidance and best practices to on-site network technicians, leading instruction on RFC2544 testing units, nal con gurations application, as well as setting up of testing circuits.
* Developed Visio automation utilizing Python to support the development of a server side application utilizing PHP to parse JSON payloads.
* Built an API to deliver drawings in a vsdx format, reducing a multi-hour process down to less than 10 minutes.
* Worked across four separate large ISP networks: Bresnan, Time Warner, Charter, Brighthouse.
* Worked on all kinds of equipment from all kinds of vendors: rewalls, routers, switches, Cisco, Extreme, Juniper, Telco, Alcatel Lucent, Mellanox, Adtran, Fortinet.

**Supplemental Instructor (Student Tutor), Madison Area Technical College** Sep 2014 - May 2015 (8m)

SQL Python Linux Postgres Windows Ubuntu Cisco

* Responsible for delivering supplemental instruction on advanced course materials to 10 or more students each week, including network equipment con guration, NetDevOps, Python automation, and CCNA exam preparation.
* Delivered engineering guidance, mentorship and instruction; encouraged growth, success and con dence in a diverse student base.
* Participated in the North American Cisco NetRiders competition placing 18th out of several hundred participants. Delivered a professional presentation on how to scale up to network topology to meet increasing bandwidth demands.
* Tutored a special needs student one on one to prevent student from failing to meet class expectations.

**Data Recovery Intern, Gillware Data Recovery**  May 2014 - Aug 2014 (3m)

* Personally thanked by sales for extreme attention to detail in the intake forms that allowed the sales team to effortlessly build and maintain customer relationships without constantly having to investigate for missing customer information.
* Internship to complete my Associate Degree in Applied Science.
* Responsible for performing operational tasks and performance optimization to ensure the functionality of recovery systems critical to success of Gillware, utilizing hardware systems while providing support to cross-functional teams.
* In partnership with the marketing and sales teams, formed impactful relationships with new and existing client base, delivered a process improvement initiative to ensure data accuracy for critical forms and documentation processes.
* Led intake for damaged hard drives, assessed platters for damage including scoring or dust; archived replacement parts, ensured impeccable ling and documentation systems that resulted in reduced shipping costs and time.

# Education

**Madison Area Technical College**

Associates Degree (3.9) IT Network Specialist

# Snippets

**Grahams Network Lessons** [**www.youtube.com**](https://www.youtube.com/@grahamsnetworklessons1124)

My professional technology YouTube channel. https://www.youtube.com/@grahamsnetworklessons1124 | 1. Concepts not commands. | 2. Lessen the impact of your failures. Fail often. (Inconsequential failures, consequential successes) | 3. Look before you leap. | 4. Investigate. Dive deeper. Extra mile. Useful questions. Satisfying answers.

# More about me

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| **My biggest achievement is...**  attempting the JNCIE-SP exam and only using public study materials so that I could post all my study free online on YouTube to help assist other test takers. | **Outside of work I...**  stand out with my continuous learning and personal projects. Notable achievements are my YouTube channel, computer vision project on juggling, web scraping project, Mbira simulator, and AI project. |
| **Right now I'm learning...**  In public on the internet! Check out my YouTube channel Grahams Network Lessons. | **Interests**  Juggling, Viola, Mbira, Freediving, Swimming, Bryan  Johnson Blueprint Longevity |